

Amendments to the Claims:

1 - 14. (canceled)

15. (currently amended) An evaporator arrangement for evaporating samples held in a sample vessel, with a holding device for holding at least one sample vessel, said holding device comprising at least one receptacle in which the sample vessel is insertable, wherein the receptacle in a cooling section is provided with cooling means, such that a sample in the sample vessel is evaporated up to a residual volume adjacent to the cooling section.

16. (currently amended) An evaporator arrangement according to claim 15, wherein the cooling section is arranged in an end region of the receiving opening receptacle.

17. (currently amended) An evaporator arrangement according to claim 16, wherein the cross section of the receiving opening receptacle tapers in the end region.

18. (currently amended) An evaporator arrangement according to claim 15, wherein the holding device is formed essentially of one piece of a block of heat-conducting material, and that the cooling section is formed by a cooling part inserted into the receiving opening at least partly confining the receptacle.

19. (previously presented) An evaporator arrangement according to claim 18, wherein the cooling part is thermally insulated with respect to the block.

20. (currently amended) An evaporator arrangement according to claim 18, wherein the cooling part consists essentially of an outer part and of an inner part, between which there is formed a first annular gap for receiving a cooling medium, wherein the first annular gap is preferably sealed with respect to the receiving opening receptacle

with sealing means.

21. (currently amended) An evaporator arrangement according to claim 18 21, wherein between the cooling part and the block there is formed a second annular gap which serves for receiving an insulation medium, in particular air.

22. (currently amended) An evaporator arrangement according to claim 15, wherein in the holding device there are incorporated channels for ~~leading~~ passing through a cooling fluid.

23. (currently amended) An evaporator arrangement according to claim 20, wherein the block and in the outer part there are provided bores which are flush with one another, for forming a supply and drainage for the cooling medium ~~wherein in the case of a second annular gap this is bridged with connection tubelets~~.

24. (currently amended) An evaporator arrangement according to claim 18 21, wherein between the cooling part and the block there are provided sealing means for sealing the second annular gap with respect to the ~~receiving opening receptacle~~.

25. (currently amended) An evaporator arrangement according to claim 15, with a sample vessel which is inserted or insertable into the ~~receiving opening receptacle~~, wherein the outer diameter of the sample vessel and the free inner diameter of the ~~receiving opening receptacle~~ are selected in a manner such that between the sample vessel and the inner surface of the ~~receiving opening receptacle~~ there is provided ~~a third an~~ annular gap for receiving a medium increasing the heat transfer.

25. (previously presented) An evaporator arrangement according to claim 15, wherein there are provided means for measuring and for setting the temperature of the cooling medium.

27. (currently amended) A method for evaporating a sample in a sample vessel, in particular in an evaporator arrangement according to claim 15, wherein the sample vessel during the evaporation is actively cooled comprising the step of actively cooling the sample vessel during the evaporation in a region defining a residual volume.

28. (canceled).

29. (new) An evaporator arrangement according to claim 21, wherein in the block and in the outer part there are provided bores which are flush with one another, for forming a supply and drainage for the cooling medium, wherein the second annular gap this is bridged with connection tubelets.